

I Claim:

1. A method of closing an open end of a product having a first layer with a first end and a second layer with a second end, the first layer being spaced apart from the second layer, the first and second ends defining an open end of the product, the first and second layers being heat weldable or fusable, the method comprising steps of:  
rolling at least the first layer toward the second layer and contacting the first layer with the second layer;  
fusing the first and second layers by heating at least one of a portion of the first layer that contacts the second layer and a portion of the second layer that contacts the first layer.
2. A method according to claim 1, wherein the rolling step includes overlapping the first layer over the second layer.
3. A method according to claim 1, wherein the rolling step includes contacting an edge of the first layer to an edge of the second layer.
4. A method according to claim 1, wherein the rolling step includes rolling both the first and second layers so that edges of the first and second layers contact each other.
5. A method according to claim 4, wherein the edges abut each other.
6. A method according to claim 1, wherein the rolling step includes rolling both the first and second layers so that the first layer overlaps and contacts the second layer.
7. A method according to claim 1, wherein the fusing step includes heating both portions of the first and second layers that contact each other.

8. A method according to claim 7, wherein the both portions are simultaneously heated.
9. A method according to claim 2, further including a step of trimming at least the second layer so that the first layer extends beyond the second layer to form a tab, the tab being dimensioned to overlap the second layer.
10. A method according to claim 4, further including a step of trimming the first and second layers so that the first and second layers extend substantially equally.
11. A method according to claim 6, further including a step of trimming the first and second layers so that the first and second layers extend substantially equally.
12. A method according to claim 1, further including a step of pressing and cooling the fused layers.
13. A method according to claim 1, wherein the product comprises a fluted thermoplastic panel.
14. A method according to claim 13, wherein the thermoplastic material is one of polypropylene, polyethylene, and polycarbonate.
15. The panel produced according to the method of claim 13.
16. An apparatus for closing an open end of a product having a first layer with a first end and a second layer having a second end, the first layer being spaced apart from the second layer, the first and second ends defining an open end of the product, the first and second layers being heat weldable or fusible, the apparatus comprising:
  - a pair of first and second guides configured to contact and guide at least the first layer and cause the first layer to contact the second layer while one of the first

and second guides and the product is moved relative to the other of the first and second guides and the product;

a heater for heating at least one of the guides to heat and melt at least one of a contact portion of the first layer that contacts the second layer and a contact portion of the second layer that contacts the first layer, so that the contact portions fuse upon contact.

17. An apparatus according to claim 16, wherein the first and second guides are configured to contact and guide the first layer to cause the first layer to overlap the second layer.

18. An apparatus according to claim 16, wherein the first and second guides are configured to contact and guide the first layer to cause an edge of the first layer to contact an edge of the second layer.

19. An apparatus according to claim 16, wherein the first and second guides are configured to contact and guide both the first and second layers to cause edges of the first and second layers to contact each other.

20. An apparatus according to claim 19, wherein the edges abut each other.

21. An apparatus according to claim 16, wherein the first and second guides are configured to contact and guide both the first and second layers to cause the first layer to overlap and contact the second layer.

22. An apparatus according to claim 17, wherein the heater heats only the first guide, the first guide being configured to simultaneously heat both contact portions of the first and second layers that are fused.

23. An apparatus according to claim 22, wherein the first guide comprises a body having a first guide surface and a second guide surface, the first guide surface

being configured to contact the contact portion of the first layer and the second guide surface being configured to contact the contact portion of the second layer.

24. An apparatus according to claim 23, wherein the second guide is positioned adjacent to the first guide surface, the second guide having a complementary guide surface that is configured complementary to the first guide surface, the first guide surface and the complementary guide surface being configured to sandwich the contact portion of the first layer.
25. An apparatus according to claim 19, wherein the first guide is configured to simultaneously heat both contact portions of the first and second layers, and wherein the heater heats only the first guide to a temperature sufficient to melt the both contact portions.
26. An apparatus according to claim 22, wherein the second guide is configured to contact an outer side of the second layer and guide only the second layer.
27. An apparatus according to claim 21, wherein the first guide is configured to contact and simultaneously heat both contact portions of the first and second layers, and wherein the heater heats only the first guide to a temperature sufficient to melt the both contact portions.
28. An apparatus according to claim 27, wherein the second guide is configured to contact an outer side of the first layer and guide only the first layer.
29. An apparatus according to claim 28, wherein the second guide is configured complementary to the first guide surface so that the first and second guides sandwich the first layer.
30. An apparatus according to claim 16, further including a pressing and cooling stage for at least cooling a fused seam.